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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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EXAMINER

BELLAMY, TAMIKO D

ART UNIT PAPER NUMBER

2856

DATE MAILED: 10/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/540,239

Applicant(s)

MIKADO ET AL.

Examiner

Tamiko D. Bellamy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8-10 and 12-14 is/are rejected.
- 7) ☒ Claim(s) 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 6/22/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

2. Claims 8 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Tabota (6,672,160).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

Re claim 8, as depicted in fig. 3, Tabota discloses a base plate (e.g., intermediate layer 5). Tabota discloses a first and second resonators (3,4) each including a piezoelectric material and each having electrodes on two opposite main surfaces (Col. 4, lines 3-7). As depicted in figs. 2 and 3, Tabota discloses the first and second resonators (3,4) attached to opposite sides of the base plate (e.g., intermediate layer 5). Tabota discloses the first and second resonators (3,4) bend in the same direction in response to acceleration, and changes in frequency or changes in impedance are differentially detected in order to detect acceleration (Col. 2, lines 4-11). As depicted in figs. 2 and 3, Tabota discloses opposite sides of the acceleration-sensor element (2) are covered with a pair of casing components (e.g., pair of casing members 6). As depicted in figs. 2 and 3, Tabota discloses that the electrodes (3a, 3b, 4a, 4b) of the first and second

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resonators (3, 4) face at least one of opposite open planes defined by the combination of the acceleration sensor element (2) and the casing components (6) with respect to a direction that is substantially perpendicular to the application direction of acceleration (G).

Re claim 9, as depicted in figs. 2-4, Tabota discloses that one of the opposite open planes defined by the combination of the acceleration-sensor element (2) and the casing components (6) with respect to the direction that is substantially perpendicular to the application direction of acceleration (G) is provided with a first electrode (62) connected with one of the electrodes (3b) of the first resonator (3). As depicted in figs. 1-4, Tabota discloses a second electrode (63) connected with a electrode (4a) of the second resonator (4). As depicted in figs. 1-4, Tabota discloses a third electrode (61) connected with the other electrode (3a) of the first resonator (3) and with the other electrode (4b) of the second resonator (4).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 10 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tabota (6,672,160).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the

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inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C.

103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Re claim 10, Tabota discloses the base plate (e.g., intermediate layer 5) made of an elastic adhesive agent and the resonators (3, 4) are fabricated of piezoelectric ceramic substrates (Col. 4, lines 16-25). While, Tabota does not specifically disclose the base and the first and second resonators are made of a material having substantially the same coefficient of thermal expansion, the court held in In re Leshin, 227 F.2d 197, 125 USPQ 416 (CCPA 1960), that the selection of a known material based upon its suitability for the intended use is a design consideration within the skill of the art. Therefore, to employ Tabota on a base plate and resonators having substantially the same coefficient of thermal expansion would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches use of two resonators attached to opposite sides of a base plate, which allows flexural stress to be transferred from one resonator to the other resonator.

Re claim 12, as depicted in figs 2 and 3, Tabota discloses the height of the resonators (4,3) in the direction that is perpendicular to the application direction of acceleration (G) is substantially the same as the height of the base plate (e.g., intermediate layer 5) a direction perpendicular to the application direction of acceleration (G). While, Tabota does not specifically discloses that the height of the resonators is smaller than the height of the base plate, the court held in In re Rose, 220 F.2d 459, 105 USPQ 237 (CCPA 1955), that the change in size of a prior art device is a design consideration within the skill of the art. Therefore, to employ Tabota on resonators having height that is smaller than the height of the base would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches use of two resonators attached to opposite sides of a base plate, which allows flexural stress to be transferred from one resonator to the other resonator.

Re claim 13, as depicted in figs. 2 and 3, Tabota discloses first and second resonators (3,4) attached to opposite sides of a base plate (e.g., intermediate layer 5).

Re claim 14, as depicted in figs. 2 and 3, Tabota discloses first and second resonators (3,4) attached to a central portion of the base plate (e.g., intermediate layer 5).

Allowable Subject Matter

5. Claim 11 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamiko D. Bellamy whose telephone number is (571) 272-2190. The examiner can normally be reached on Monday - Friday 7:30 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tamiko Bellamy
T.B.
October 13, 2006


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